

given any proof that such is the case. He says:—"We may never in our waking hours be wholly free from the stimulation of the senses, but in the exuberance of nervous power, our activity is out of all proportion to the actual solicitation of the feelings." What is the right proportion of activity to feeling? the proportion that Prof. Bain takes as his standard by which to discover that at times our activity is out of all proportion to feeling. Is not the simple and the whole fact this, that the amount of bodily movement that goes along with a given amount of feeling is different in each individual, and in the same individual from hour to hour. He continues:—"The gesticulations and the carols of young and active animals are mere overflow of nervous energy; and although they are very apt to concur with pleasing emotion, they have an independent source? their origin is more physical than mental." Is not the origin not of these only, but of all movements, entirely physical, though it is also a fact that some movements, and certainly these among the number, concur with pleasing emotion? Mr. Darwin has instanced the frisking of a horse when turned into an open field, as an example of joyful expression; on which it is remarked, this "is almost pure spontaneity it does not necessarily express joy or pleasure at all. How curious! One must really be a psychologist before he can see common things in such an uncommon light. Perhaps no movement necessarily expresses any state of consciousness whatever: but no ploughboy, we venture to think, ever doubted that the frisking of his horse, when he turned it loose in the field, was an expression of delight. But, then, ploughboys have no theories about spontaneous activity. All mental states correspond to certain physical conditions; that "the nerve-centres and the muscles shall be fresh and vigorous" is the physical condition of much bodily activity, and at the same time of the pleasure that goes along therewith. Granting that "the kitten is not seriously in love with a worsted ball," it thoroughly enjoys the sport nevertheless. Its amusement being mere play does not preclude its being real pleasure. And if our memories can be trusted, the worsted balls of our childhood were far more delightful than the gold and substantial realities we seriously love in our old age. S.

"LAHORE TO YARKAND"

Lahore to Yarkand. By Geo. Henderson, M.D., and Allen O. Hume. (L. Reeve & Co.)

TO Mr. Forsyth, the able conductor of the expedition which they describe, the authors dedicate this handsome volume, which, instead of being a continuous narrative, is divided into three separate parts, each of which will appeal to a different class of readers. The description of the route, and the incidents encountered on it, are given by Dr. Henderson, who with Mr. Forsyth and Mr. Shaw were the only Europeans that went to Yarkand on this "friendly" visit, sent by our Government to the Atalik Ghazi; it occupies two-fifths of the work. The natural history of the living forms met with, mostly by Dr. Hume, fills about one-fourth; the rest consisting of meteorological observations taken by Dr. Henderson on the journey.

The difficulties that had to be encountered *en route* were

many and severe; the desert nature of the road between the districts of Ladak and Yarkand made it almost necessary to discontinue the expedition, and the great heights that had to be surmounted put a check on rapid progress, in some parts rendering it impossible.

Several opportunities occurred for the observation of the physiological effects of higher altitudes and rapid changes of barometric pressure, one pass near Gnishu which had to be traversed, named Cayley's Pass after Dr. Cayley its discoverer, being 19,600 feet above the level of the sea. From Dr. Henderson's remarks, however, it appears that mountain sickness is not dependent on the rarity of the air alone, for during the time that the expedition was in the pass mentioned, no note was recorded of any of the number suffering from it, whilst previously, on the Chang-la, which is 18,000 feet, most of the camp suffered from severe headache, nausea, prostration of mind and body, together with irritability of stomach and temper; nevertheless observations at the time showed that the pulse was not unusually rapid and the respiration was but little, if at all, increased. The feeling of suffocation occasionally experienced on waking during the night usually passed off after a few deep inspirations had been made. It is much to be regretted that, with the opportunities of verifying and extending Dr. Marcet's observations on the effects of ascending and descending mountains, Dr. Henderson was not in a position to do so, which he undoubtedly would have done if he had been acquainted with them.

Shortly after leaving Patsalung, and when on the southern boundary of Hill Yarkand, "nearly ten miles of the way was over a plain about five miles wide, which was covered to a depth of many feet (in one place where cracks existed, to not less than twenty feet) with sulphate of magnesia (Epsom salts), pure and white as newly-fallen snow." This shows the abundance of a magnesian limestone in the surrounding higher ground, and as the water-supply of the city of Yarkand was from rivers which rose in this or similar hills, the author's remark that "about every third man we saw was afflicted with goitre," is scarcely more than was to be expected, and we think that if, instead of making "over to the Dád Khwah a quantity of iodine, for the treatment of goitre, at which he was very much pleased," he had proposed a change in the water-supply, the Yarkandis would have been the gainers in the long run.

As the Atalik Ghazi was away at the time Mr. Forsyth arrived at his destination, and as the latter had strict orders to return before winter, the mission was partially unsuccessful. The return journey being later in the year, the cold and discomfort were greater than on the march north; an idea may be formed of the acuteness of the cold from the author's note on the Sukat pass. "My ink was constantly hard frozen, and on several occasions when I thawed it before the fire and attempted to write in my pencil notes, it froze at once on the point of the pen. Several times I tried to photograph, and once or twice succeeded, but usually the tepid water used for washing the plate froze as I poured it from the jug, and instantly destroyed the picture."

The illustrations of scenery, which in many books of travel are but indifferently drawn, and disappointingly inaccurate, are in this work replaced by "heliotype prints"

from photographic negatives taken by Dr. Henderson himself, and nothing can, in most cases, be more satisfactory. What is wanted on such occasions is not only a picture, but a representation sufficiently full of detail to enable the reader by simple inspection to form a truthful idea of the country described. Such are found in the photographs of the Valley above Paskyum, and the fort and bridge over the Indus river at Kalsi, and others before us, which, from the contrasts of light and shade, and the evident glare, bring vividly before the mind the intensity of the heat, as well as the desolateness of the locality, a combination scarcely possible in any character of engraving.

The Natural History notes are mostly ornithological and botanical. In his *résumé* of the ornithological results of the expedition, Mr. Hume informs us that "altogether, 158 species were observed, but of these only 59 pertain to the ornithologically unknown hills and plains of Yarkand. . . . Of these fifty-nine species, 7, *Falco hendersoni* (? *F. milvipes*, of Hodgson), *Saxicola hendersoni*, *Suya albo superciliaris*, *Podoces hendersoni*, *P. humilis*, *Galerida magna*, and *Caccabis pallidus*, are probably new to Science." An excellent illustration, by Mr. Keulemans, is given of each of these new species, except the last, which is very closely allied to *C. chukar*, and the coloration of the drawing of *Sturnus nitens* (Hume) exemplifies very successfully the propriety of the specific name. Mr. Gould's description of *S. purpurascens* is compared with that of the new species, the former being absolutely speckless and much smaller. *Podoces hendersoni* and *P. humilis* are both new species of this genus, which the author, following Bonaparte, places with the Choughs and not with the Jays and Magpies, remarking, however, "remembering their ground-feeding, dust-loving habits, . . . I cannot avoid the suspicion that these birds may constitute a very aberrant form of the great Timaline group."

On the Chang-la pass above referred to, Mr. Shaw obtained a butterfly, which Mr. H. W. Bates places in the mountain genus *Mesapia*, naming it *M. shawii*; it closely resembles *M. peloria*. Several specimens of the moth, *Neorina shadula* were also obtained.

Dr. Hooker and Mr. Benthham have written the descriptions of the new species of flowering plants, which are figured; they include, from the Tamaricaceæ, *Hololachne shawiana*; from the Compositæ, *Iphiona radiata* and *Saussurea ovata*; and from the Apocynaceæ, *Apocynum hendersonii*. Dr. Dickie of Aberdeen describes the Algæ and Diatomaceæ, and has also named some new forms.

OUR BOOK SHELF

The Internal Parasites of our Domesticated Animals.
By T. S. Cobbold, F.R.S. (The Field Office.)

IN this short and concise work Dr. Cobbold has embodied a series of articles which have appeared from time to time in the *Field*. They, having been originally written for the perusal of the non-scientific public, are put in a simple and elementary manner, and much stress is laid on the practical bearing of the science of helminthology, the true value of which the author clearly shows to be but little appreciated by the growers of stock. Several excellent illustrations accompany the descriptions, which

will greatly assist the amateur reader. The entozoa infesting the ox are first described,—flukes, tapeworms, and measles, together with round worms. The importance of more perfect sewage arrangements whereby the ejecta of one animal are not allowed to contaminate the ingesta of another, is laid great stress on. The great carelessness on this point in India evidently leads to the preponderance of parasitic diseases in that country, where the heat and attending thirst cause the frequently small supplies of water to be employed for drink when in a very unfit state, on account of the abundance of ova of parasites that it may contain. A description is also given of the manner in which the Burates or Cossacks of the region of Lake Baikal are nearly all infested with tapeworm, from the custom prevalent amongst them of eating their meat—the flesh of calves, sheep, camels, and horses—in an almost raw condition, and in enormous quantities. We think that there is one point in which this work is particularly suggestive. The great gaps there are in our knowledge of helminthology, such as the imperfect information that can be given as to the source of the liver fluke, must cause most readers who have opportunities at their disposal to wish to develop further a subject which has so many obvious practical bearings on the prosperity of this country; for England in the opinion of many competent authorities is developing more and more into a meat-producing and not seed-growing land. The parasites of the sheep, dog, hog, and cat are those which form the rest of this instructive little volume.

Chapters on Trees: a Popular Account of their Nature and Uses. By Mary and Elizabeth Kirby (London: Cassell, Petter, and Galpin.)

The Amateur's Greenhouse and Conservatory. By Shirley Hibberd. (London: Groombridge and Sons, 1873.)

WE have here a brace of books on arboriculture and floriculture, each of which will be welcomed by a certain class of readers, and will fill a useful place in popular scientific literature. Both are written in an agreeable and attractive manner, and are bound and generally got up in a style to suit the drawing-room table. The authoress of the first (or authoresses, for though two names appear on the title-page, the pronoun used is sometimes the first person singular) must not be taken too implicitly as a guide in her scientific and structural details. Many of her statements are, to say the least, very doubtful, and bear the marks of a want of acquaintance with the recent results of botanical science. Passing by this defect, we have a great deal of interesting information and gossip about a great number of our forest-trees. There are also very good descriptions, forming the best part of the book, of many other trees of great economic value with which we are not so familiar, as the ebony, the camphor, the nutmeg-tree, &c. The illustrations—one full-sized one for every tree, besides smaller ones—are, with a few exceptions, excellent.

The second volume, like all Mr. Shirley Hibberd's, contains a great amount of practically useful information on the culture of plants. Indeed anyone who is interested in the matter will find here advice on almost every point connected with the construction and management of plant-houses, and with the selection, cultivation, and improvement of ornamental greenhouse and conservatory plants. There are a large number of woodcuts and some well-executed coloured plates. The book comes, however, more within the range of the gardener than of the scientific student.

Tenth Annual Report of the Belfast Naturalists' Field Club. (Belfast: 1873.)

WE are glad to see from the Committee's report that the condition of this club is in every respect satisfactory, both as to numbers, finances, and, most important of all, amount and value of work done by the members. The